T08T50" T29T8960

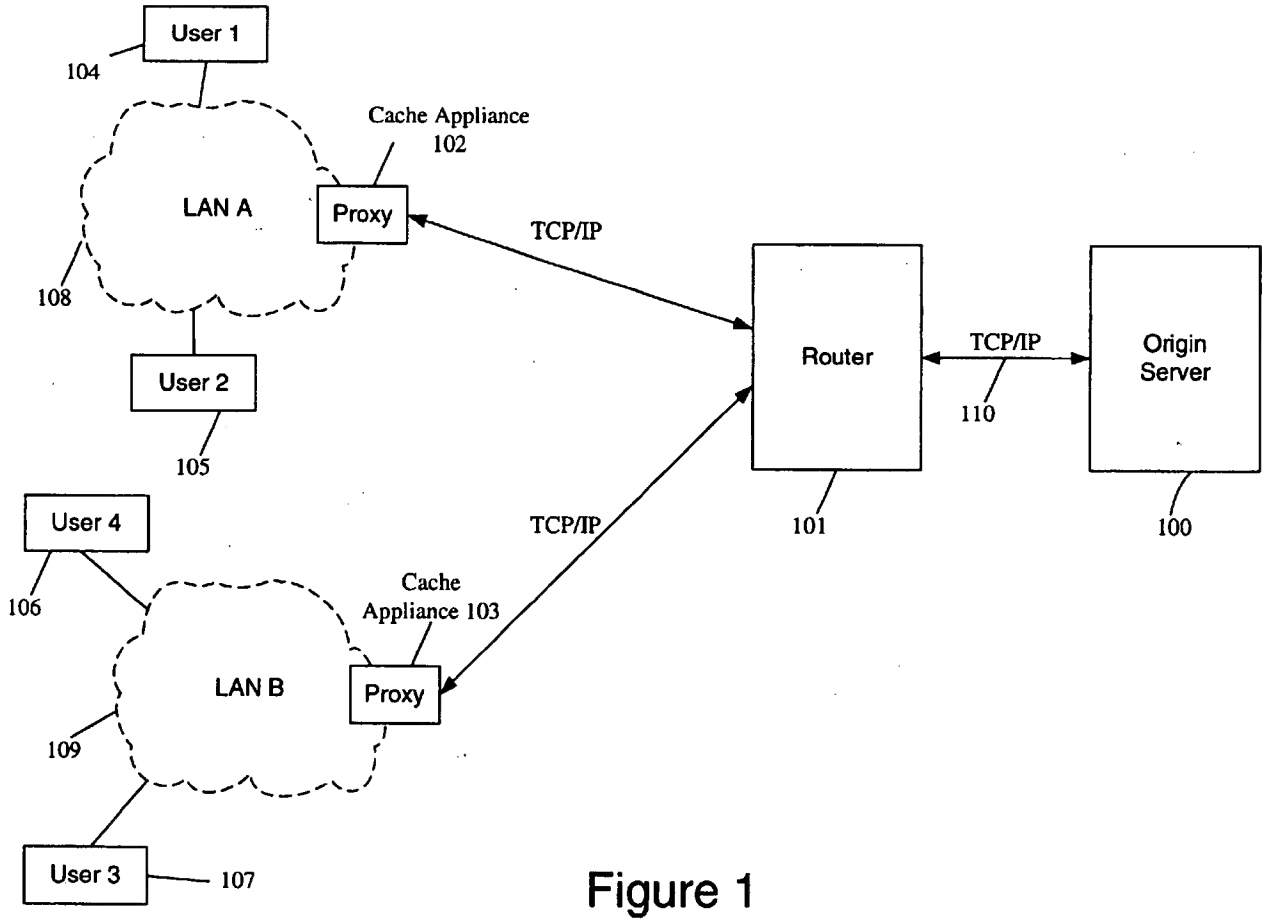

Figure 1

T08T50 T29T3960

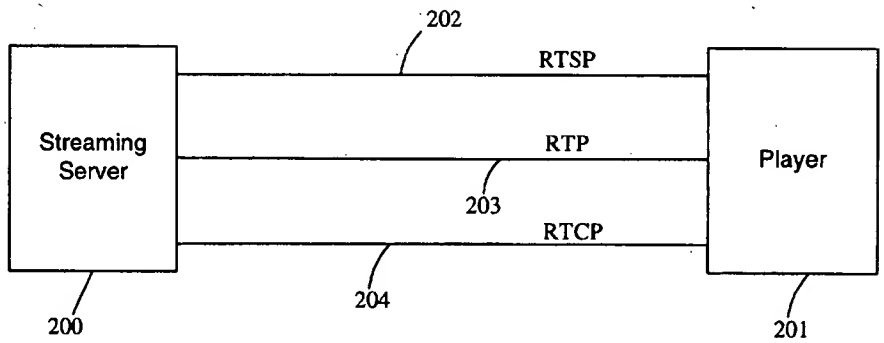

Figure 2

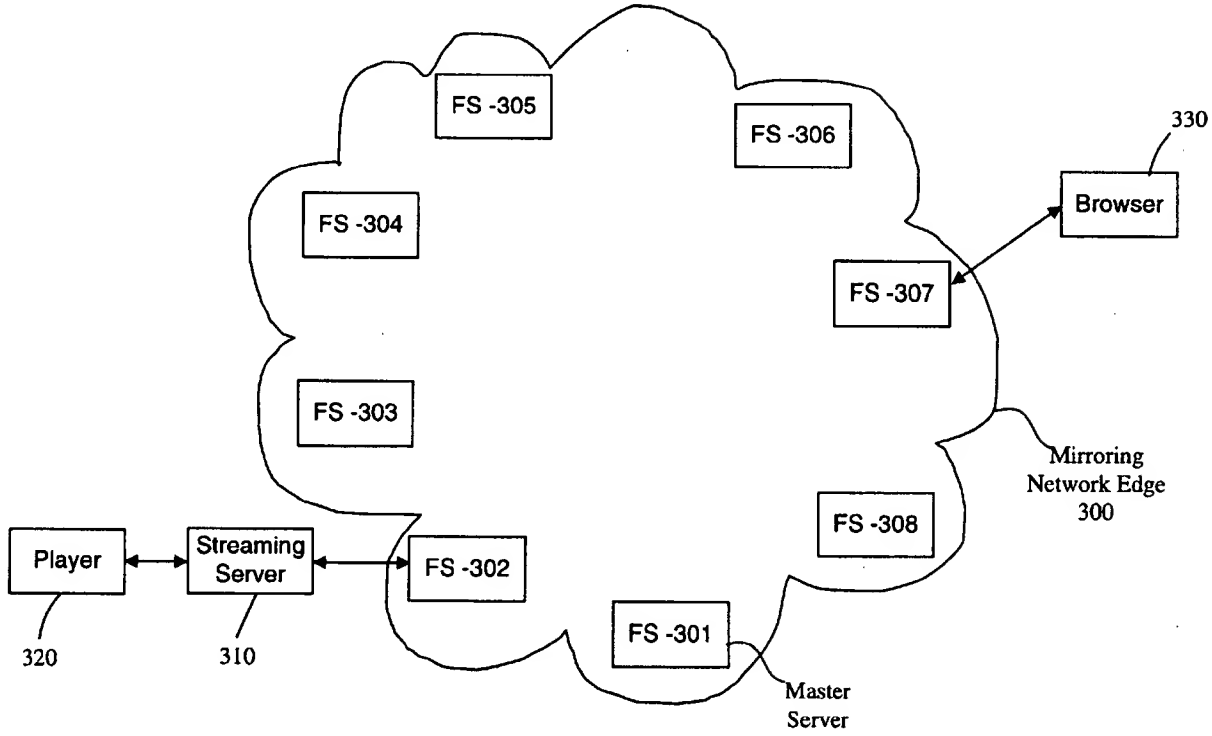
FS -305
FS -306
330
Browser
FS -304
FS -307
FS -303
Mirroring
Network Edge
300
FS -308
Player
Streaming
Server
FS -302
FS -301
320
310
Master
Server

Figure 3

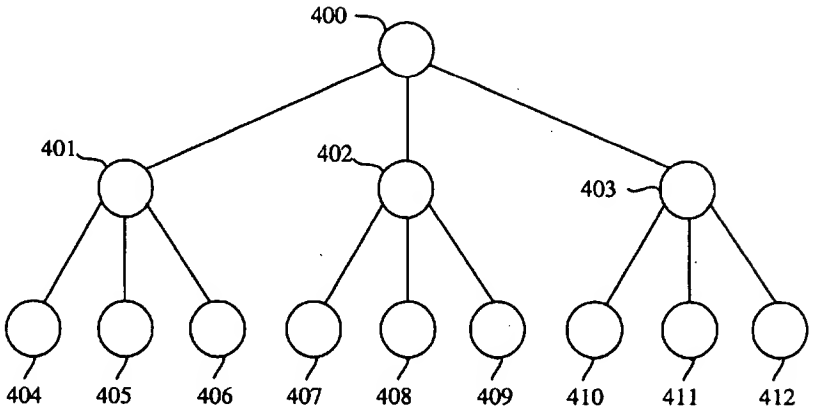

Figure 4

T08T50 T29T8960

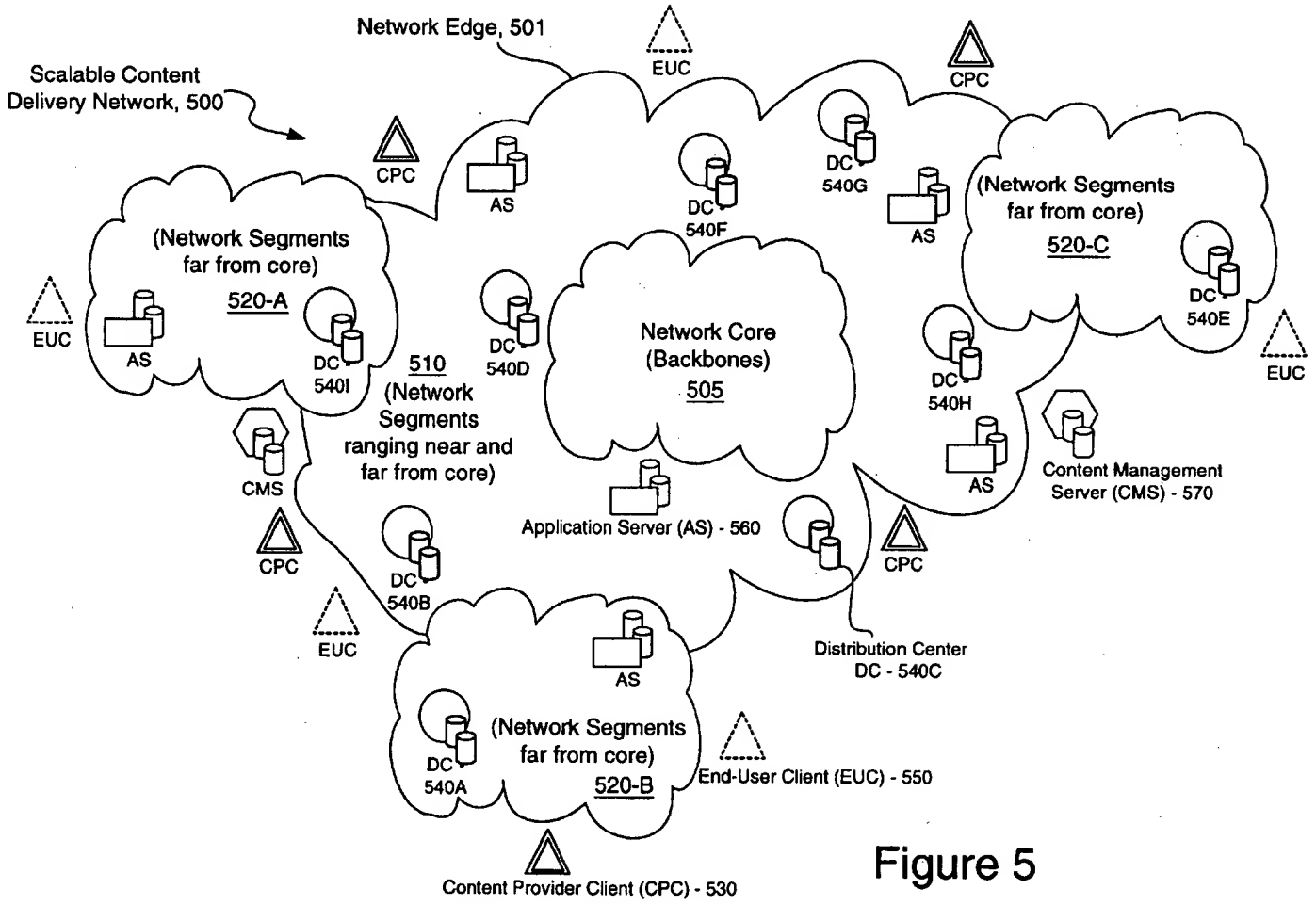

Figure 5

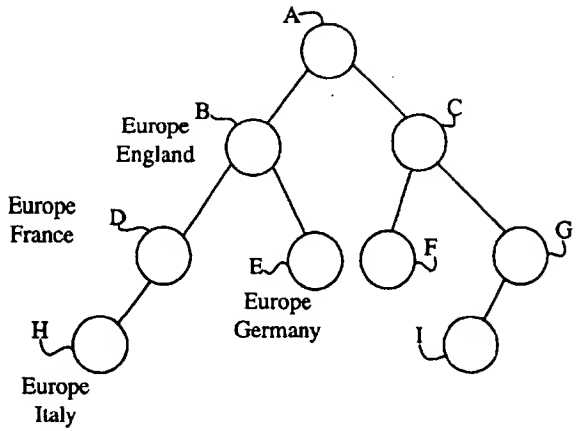
A
B
Europe
England
C
Europe
France
D
E
Europe
Germany
F
G
H
Europe
Italy
I

Figure 6

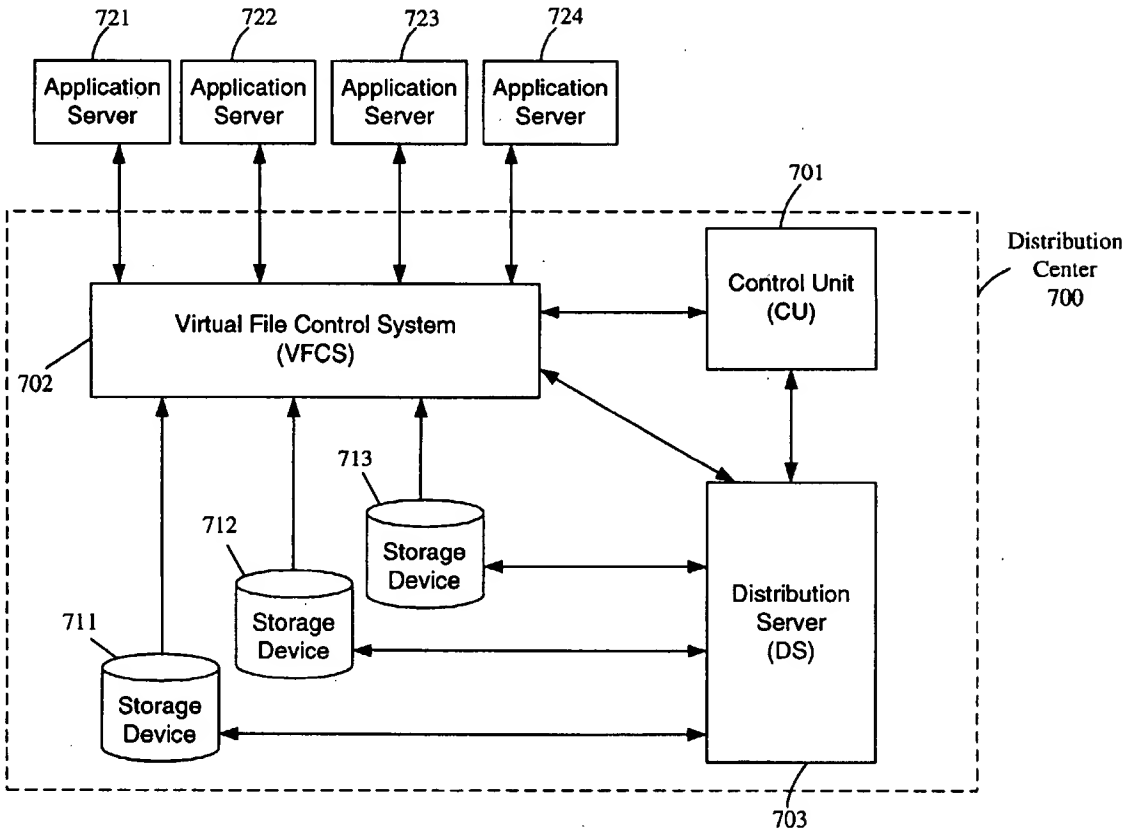
721
722
723
724
Application Server
Application Server
Application Server
Application Server
701
Distribution Center 700
Control Unit (CU)
Virtual File Control System (VFCS)
702
713
712
711
Storage Device
Storage Device
Storage Device
Distribution Server (DS)
703

Figure 7

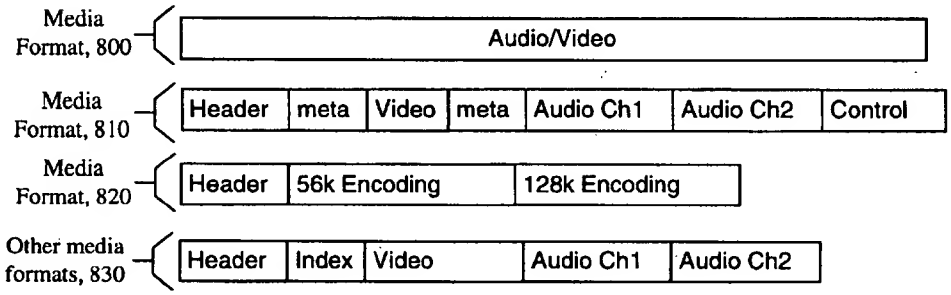
Media Format, 800
Audio/Video
Media Format, 810
Header
meta
Video
meta
Audio Ch1
Audio Ch2
Control
Media Format, 820
Header
56k Encoding
128k Encoding
Other media formats, 830
Header
Index
Video
Audio Ch1
Audio Ch2

Figure 8

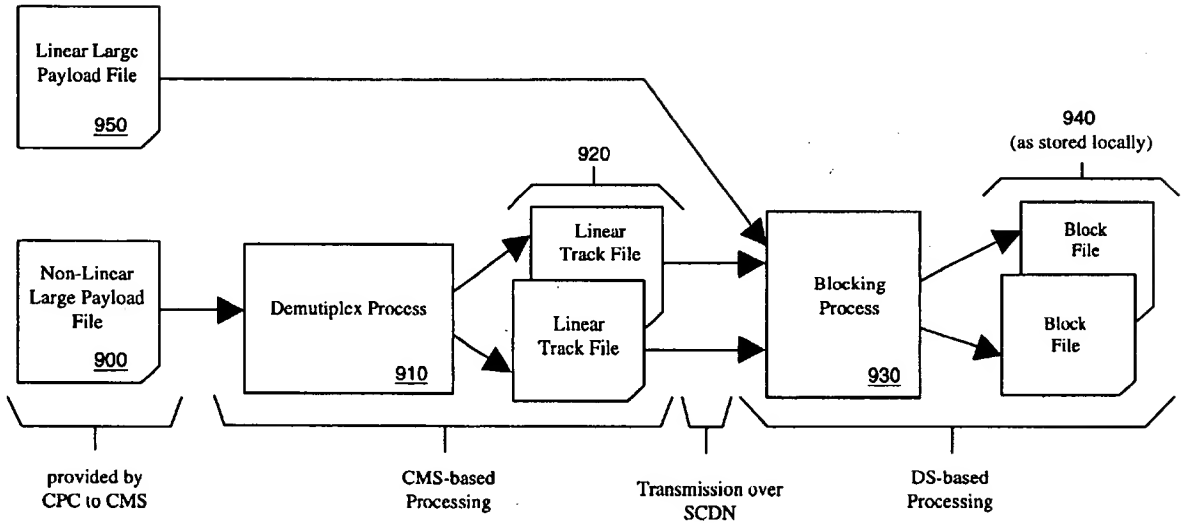
Linear Large Payload File
950
Non-Linear Large Payload File
900
Demutiplex Process
910
920
Linear Track File
Linear Track File
Blocking Process
930
940
(as stored locally)
Block File
Block File
provided by CPC to CMS
CMS-based Processing
Transmission over SCDN
DS-based Processing

Figure 9

T08T50" T79T8960

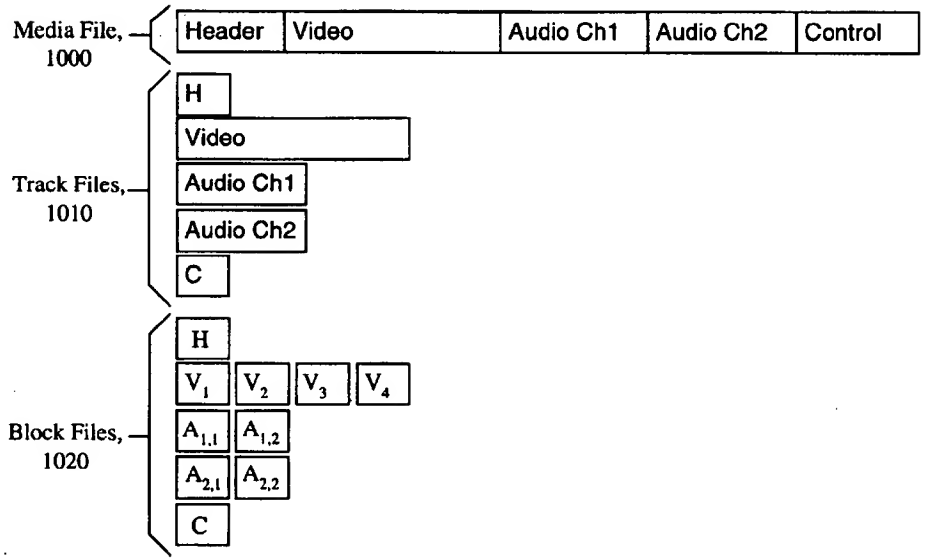

Figure 10

T-827 P.01/036 F-030

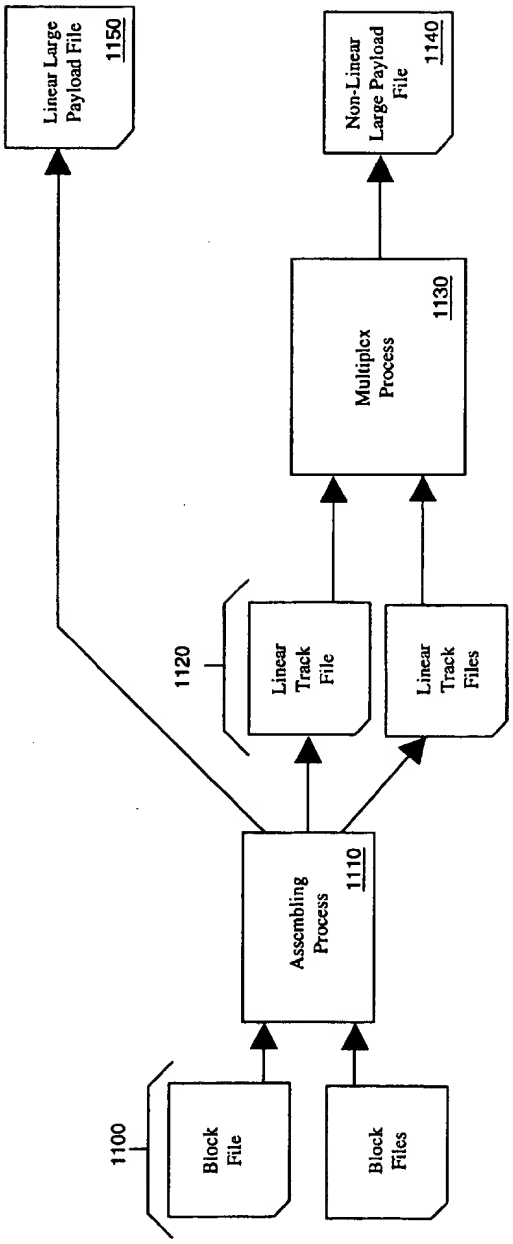

Figure 11

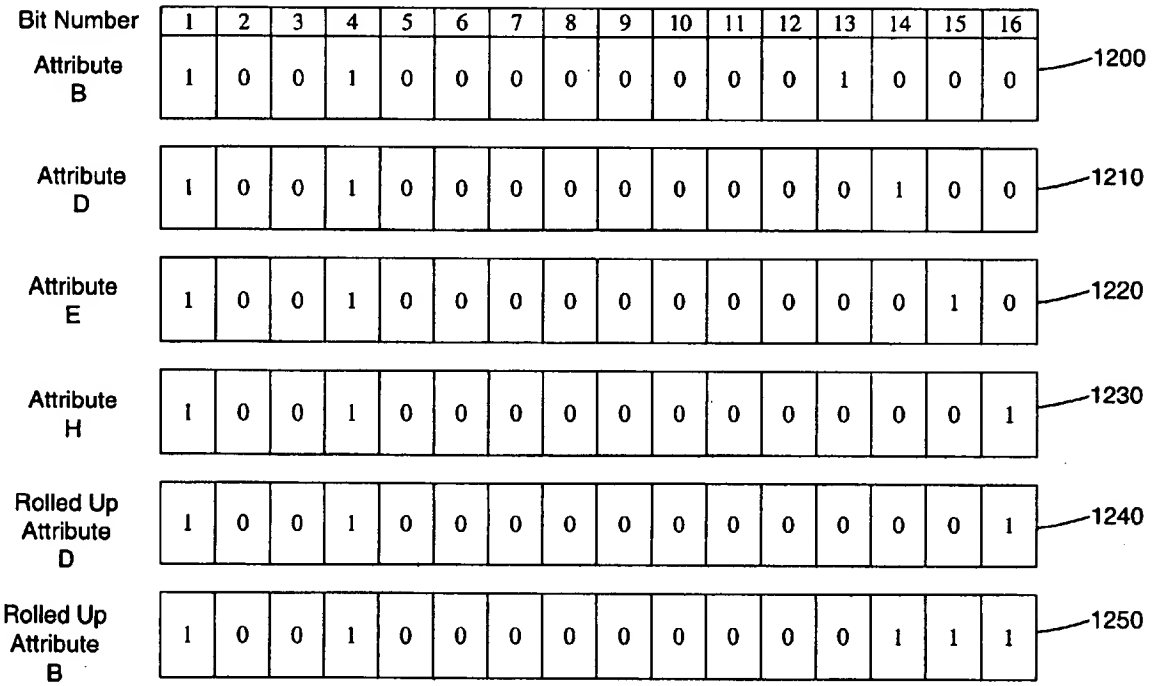
Bit Number
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Attribute B
1 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0
1200
Attribute D
1 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0
1210
Attribute E
1 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0
1220
Attribute H
1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1
1230
Rolled Up Attribute D
1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1
1240
Rolled Up Attribute B
1 0 0 1 0 0 0 0 0 0 0 0 0 1 1 1
1250

Figure 12

T08T50"T29T8960

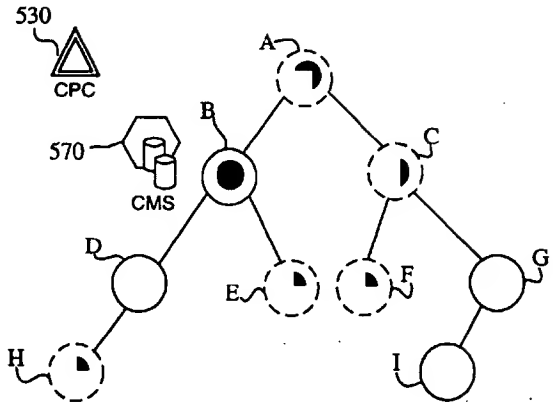

Figure 13

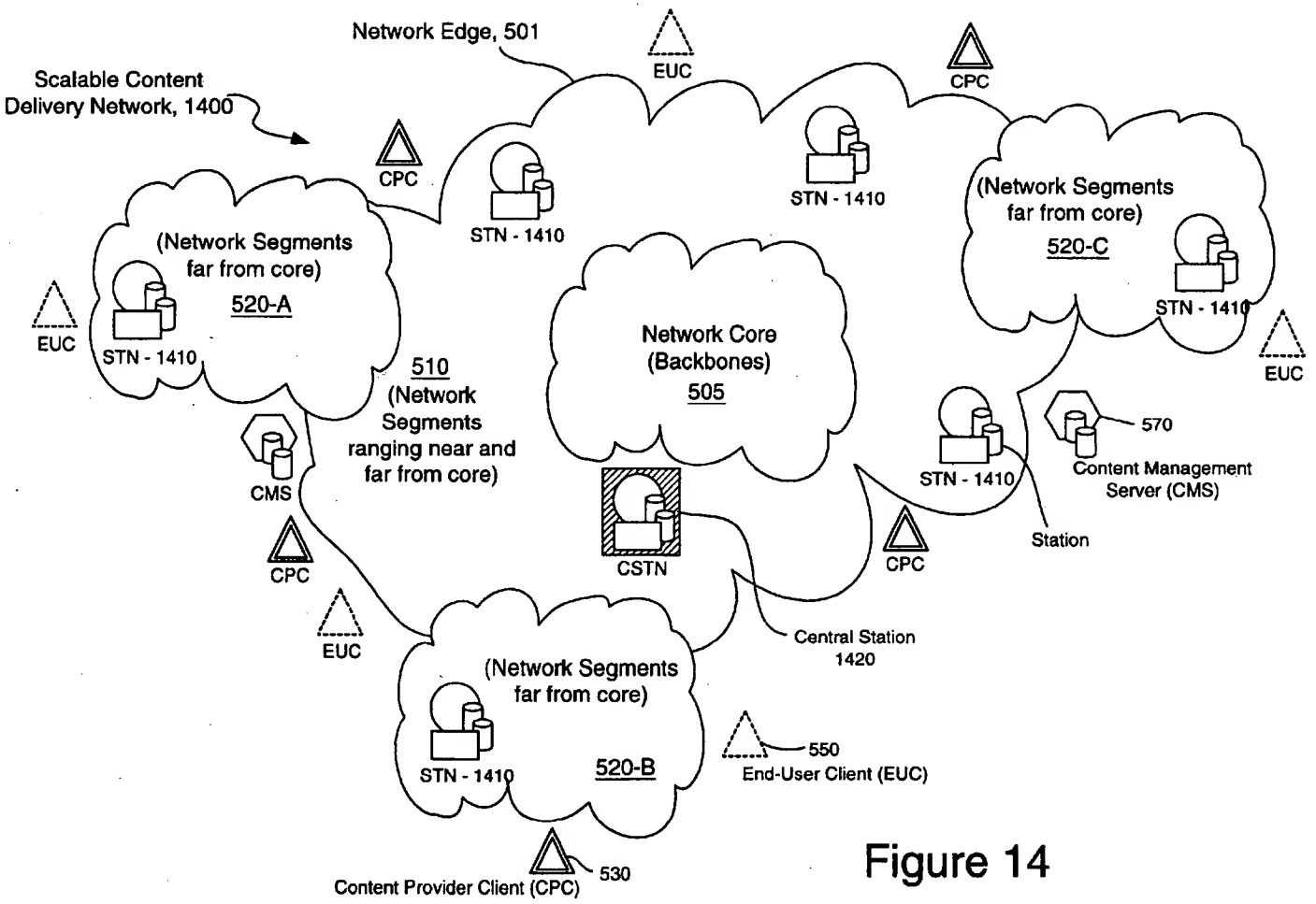
Network Edge, 501
Scalable Content Delivery Network, 1400
EUC
CPC
CPC
STN - 1410
STN - 1410
(Network Segments far from core)
520-A
EUC
STN - 1410
510
(Network Segments ranging near and far from core)
Network Core (Backbones)
505
(Network Segments far from core)
520-C
STN - 1410
EUC
CMS
CPC
CSTN
CPC
STN - 1410
570
Content Management Server (CMS)
Station
EUC
Central Station
1420
(Network Segments far from core)
STN - 1410
520-B
550
End-User Client (EUC)
530
Content Provider Client (CPC)

Figure 14

T0850-T4598960

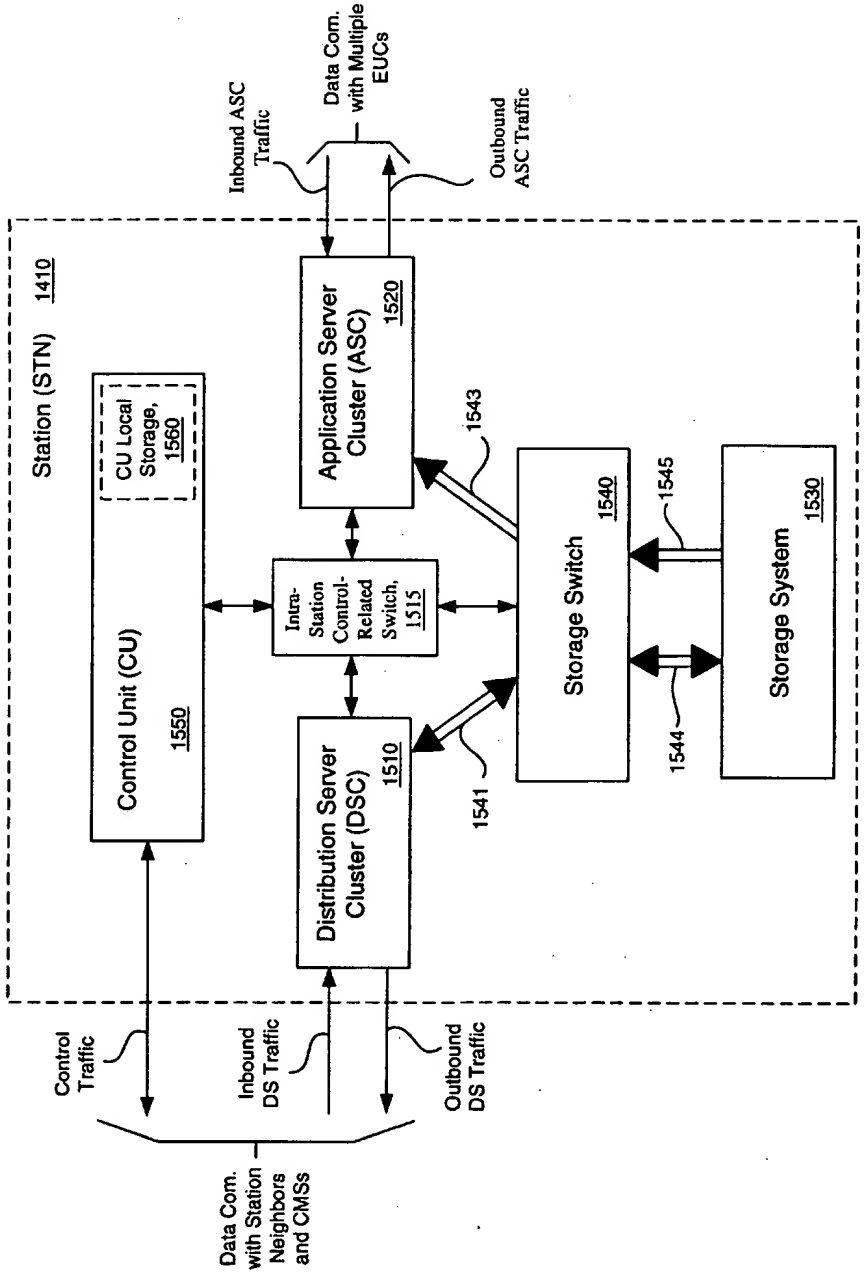

Figure 15

T08T50°T29T8960

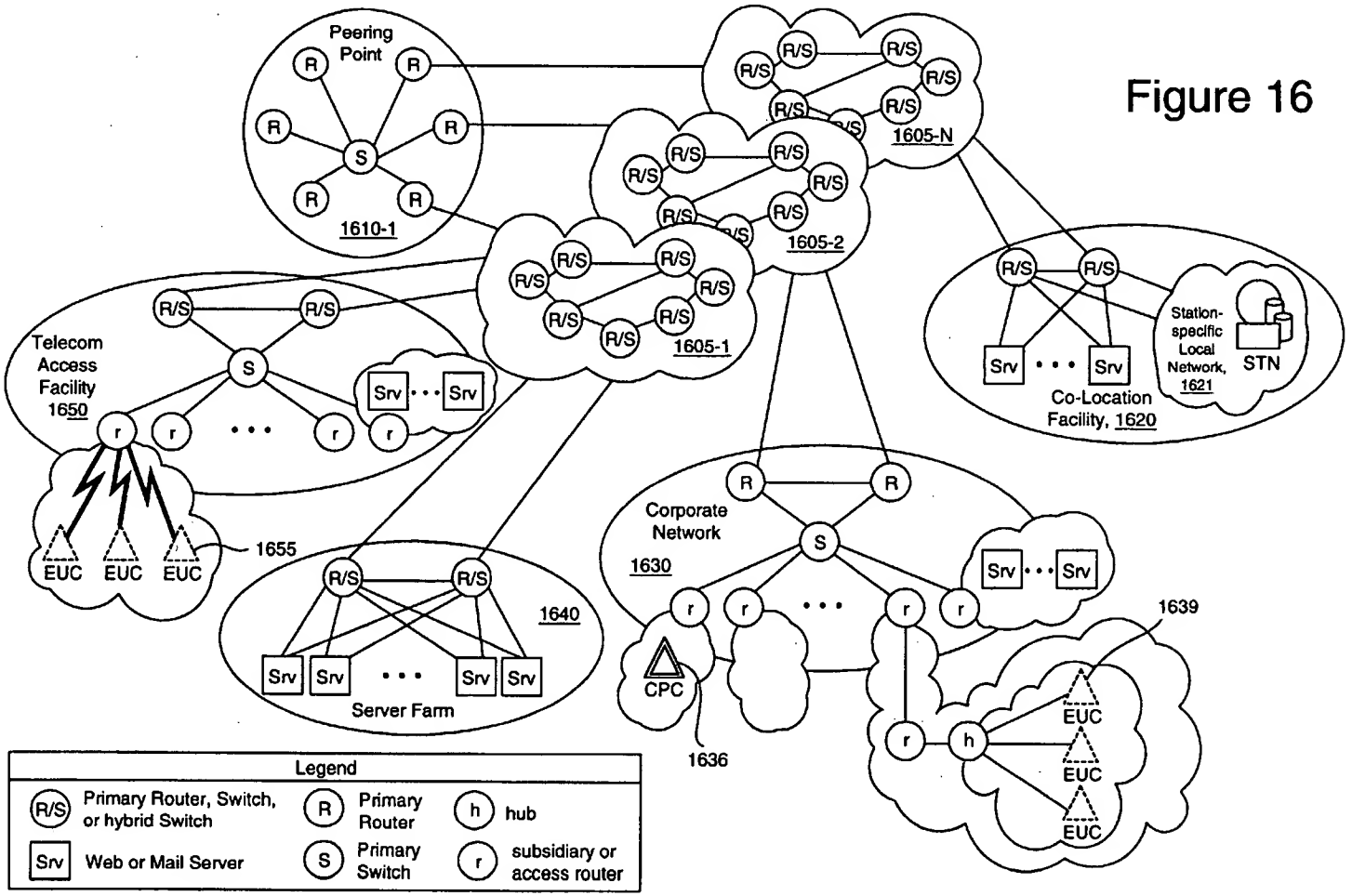

Figure 16

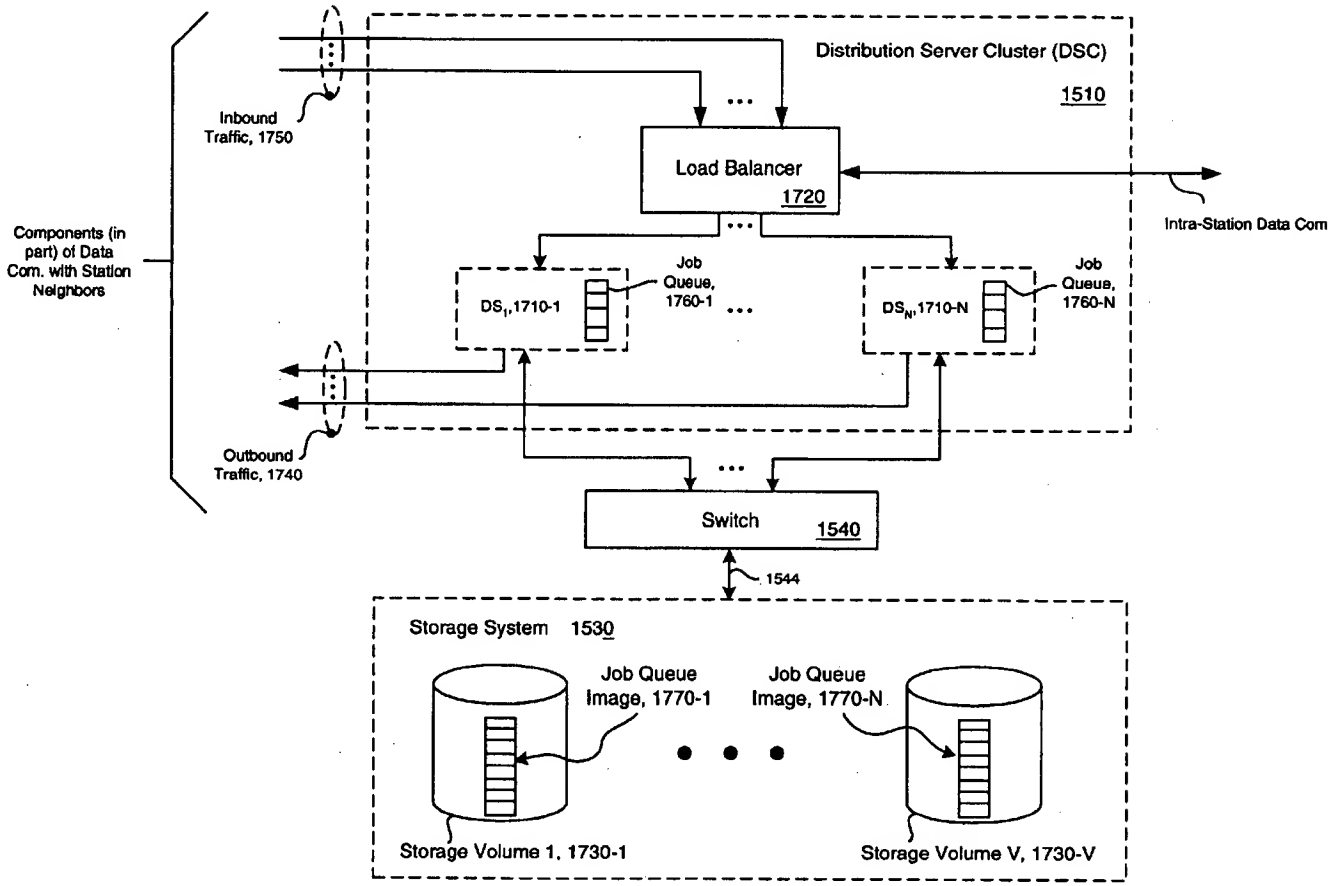
Distribution Server Cluster (DSC)
1510
Inbound Traffic, 1750
Load Balancer
1720
Intra-Station Data Com
Components (in part) of Data Com. with Station Neighbors
Job Queue, 1760-1
DS1, 1710-1
DSN, 1710-N
Job Queue, 1760-N
Outbound Traffic, 1740
Switch
1540
1544
Storage System 1530
Job Queue Image, 1770-1
Job Queue Image, 1770-N
Storage Volume 1, 1730-1
Storage Volume V, 1730-V

Figure 17

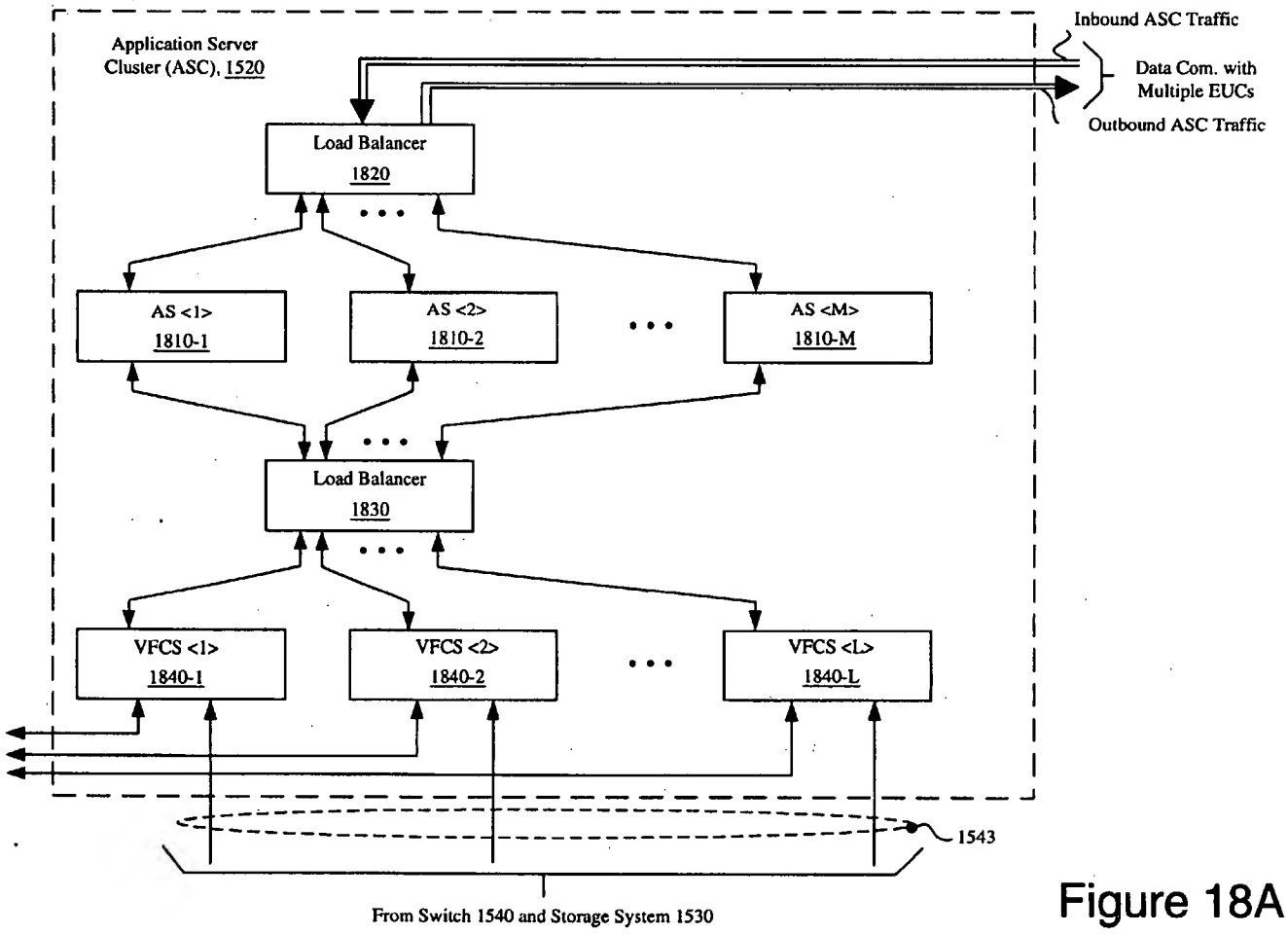
Application Server
Cluster (ASC), 1520
Inbound ASC Traffic
Data Com. with
Multiple EUCs
Outbound ASC Traffic
Load Balancer
1820
AS <1>
1810-1
AS <2>
1810-2
AS <M>
1810-M
Load Balancer
1830
VFCS <1>
1840-1
VFCS <2>
1840-2
VFCS <L>
1840-L
1543
From Switch 1540 and Storage System 1530

Figure 18A

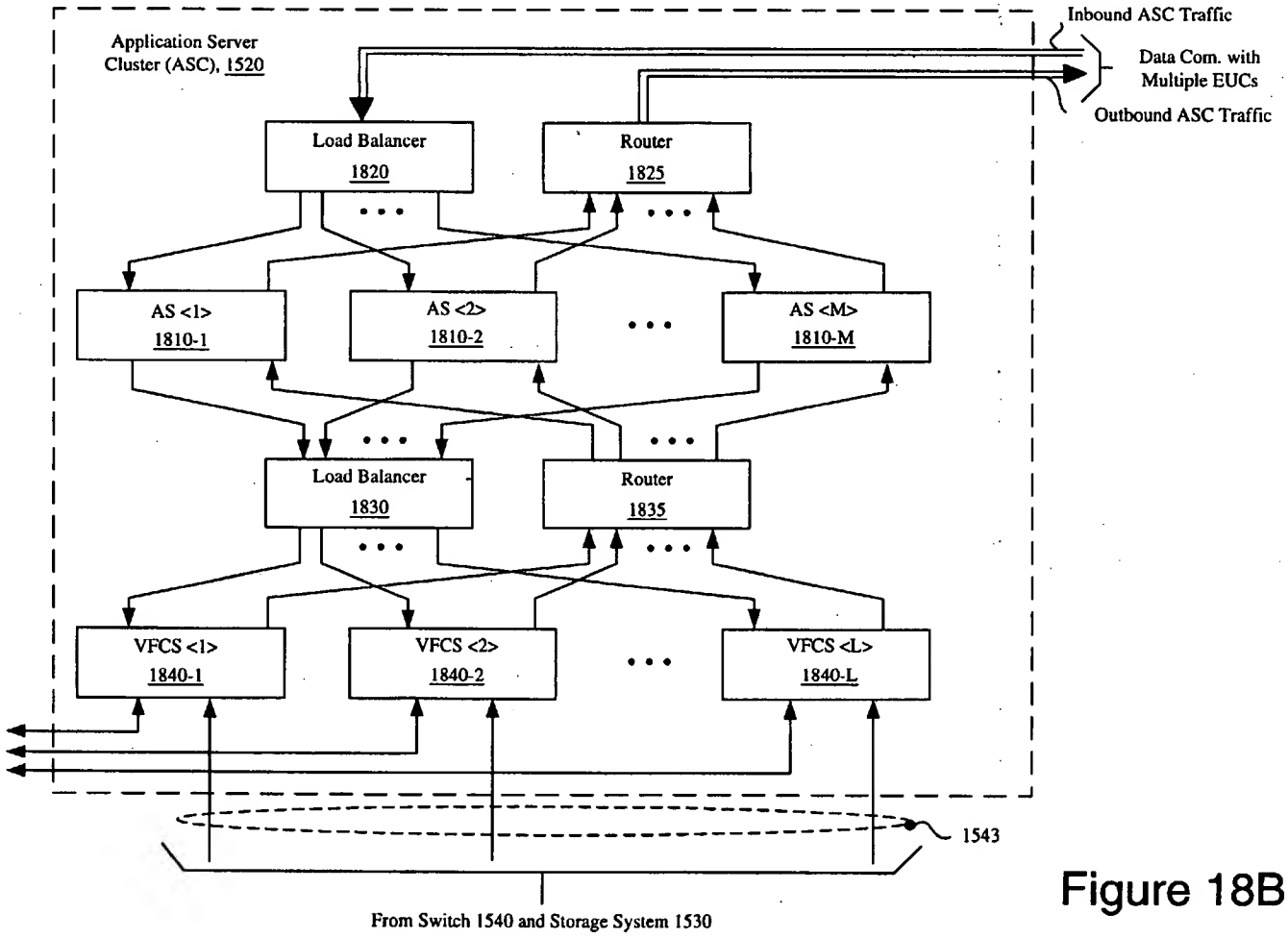
Application Server
Cluster (ASC), 1520
Inbound ASC Traffic
Data Com. with
Multiple EUCs
Outbound ASC Traffic
Load Balancer
1820
Router
1825
AS <1>
1810-1
AS <2>
1810-2
AS <M>
1810-M
Load Balancer
1830
Router
1835
VFCS <1>
1840-1
VFCS <2>
1840-2
VFCS <L>
1840-L
1543
From Switch 1540 and Storage System 1530

Figure 18B

Fabric-Net-Patent

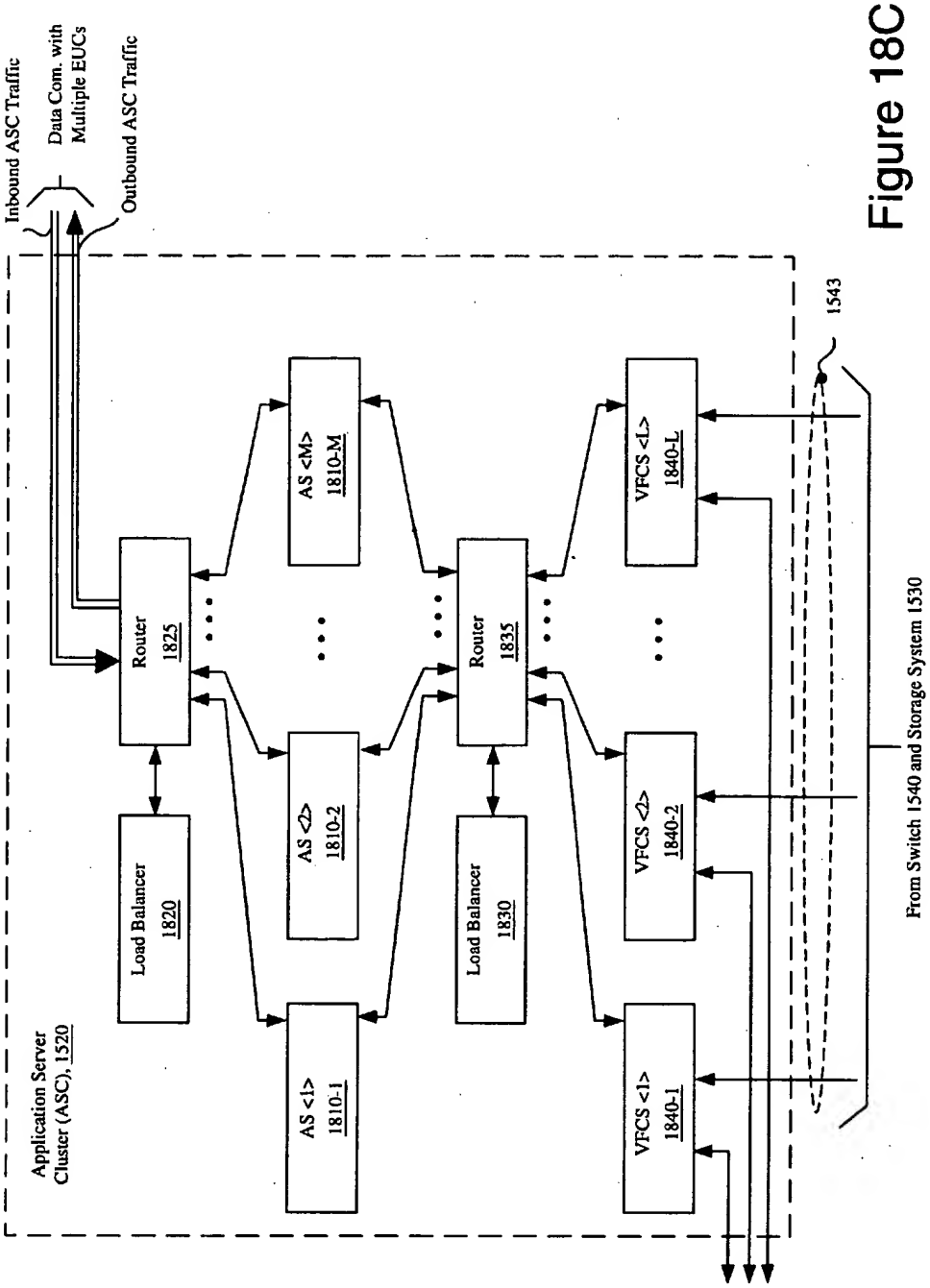

Figure 18C

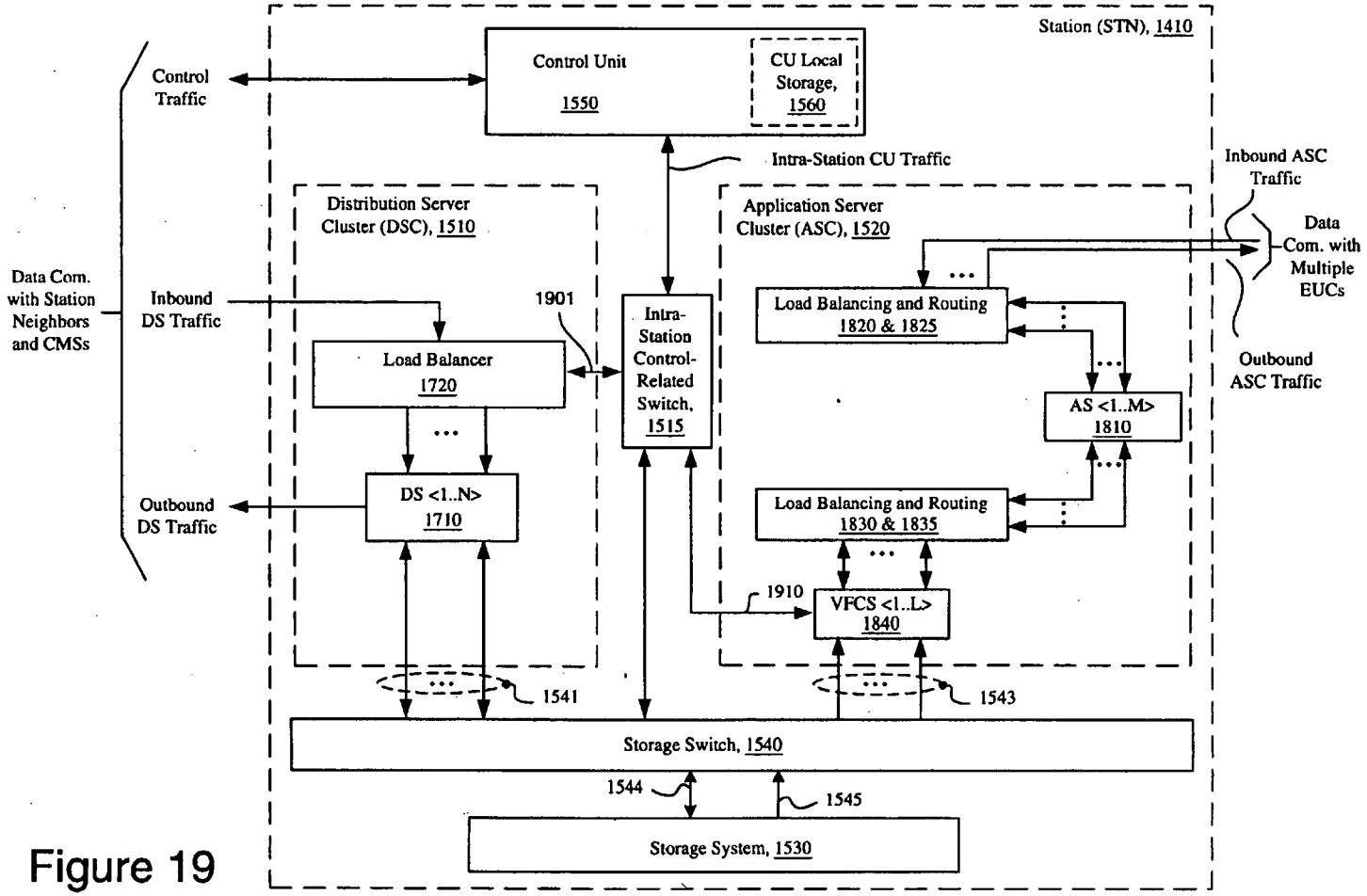
Station (STN), 1410
Control Traffic
Control Unit
1550
CU Local Storage, 1560
Intra-Station CU Traffic
Inbound ASC Traffic
Data Com. with Multiple EUCs
Outbound ASC Traffic
Distribution Server Cluster (DSC), 1510
Application Server Cluster (ASC), 1520
Data Com. with Station Neighbors and CMSs
Inbound DS Traffic
1901
Intra-Station Control-Related Switch, 1515
Load Balancing and Routing 1820 & 1825
Load Balancer 1720
AS <1..M> 1810
DS <1..N> 1710
Outbound DS Traffic
Load Balancing and Routing 1830 & 1835
1910
VFCS <1..L> 1840
1541
1543
Storage Switch, 1540
1544
1545
Storage System, 1530

Figure 19

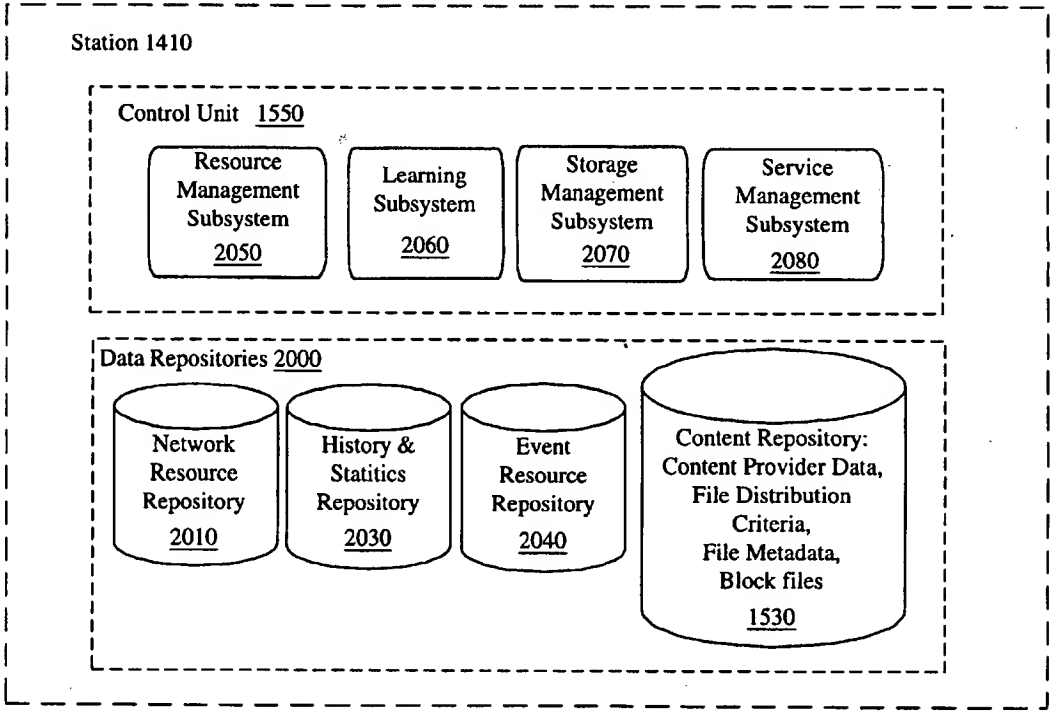
Station 1410
Control Unit 1550
Resource Management Subsystem 2050
Learning Subsystem 2060
Storage Management Subsystem 2070
Service Management Subsystem 2080
Data Repositories 2000
Network Resource Repository 2010
History & Statitics Repository 2030
Event Resource Repository 2040
Content Repository: Content Provider Data, File Distribution Criteria, File Metadata, Block files 1530

Figure 20

Patent Application Publication

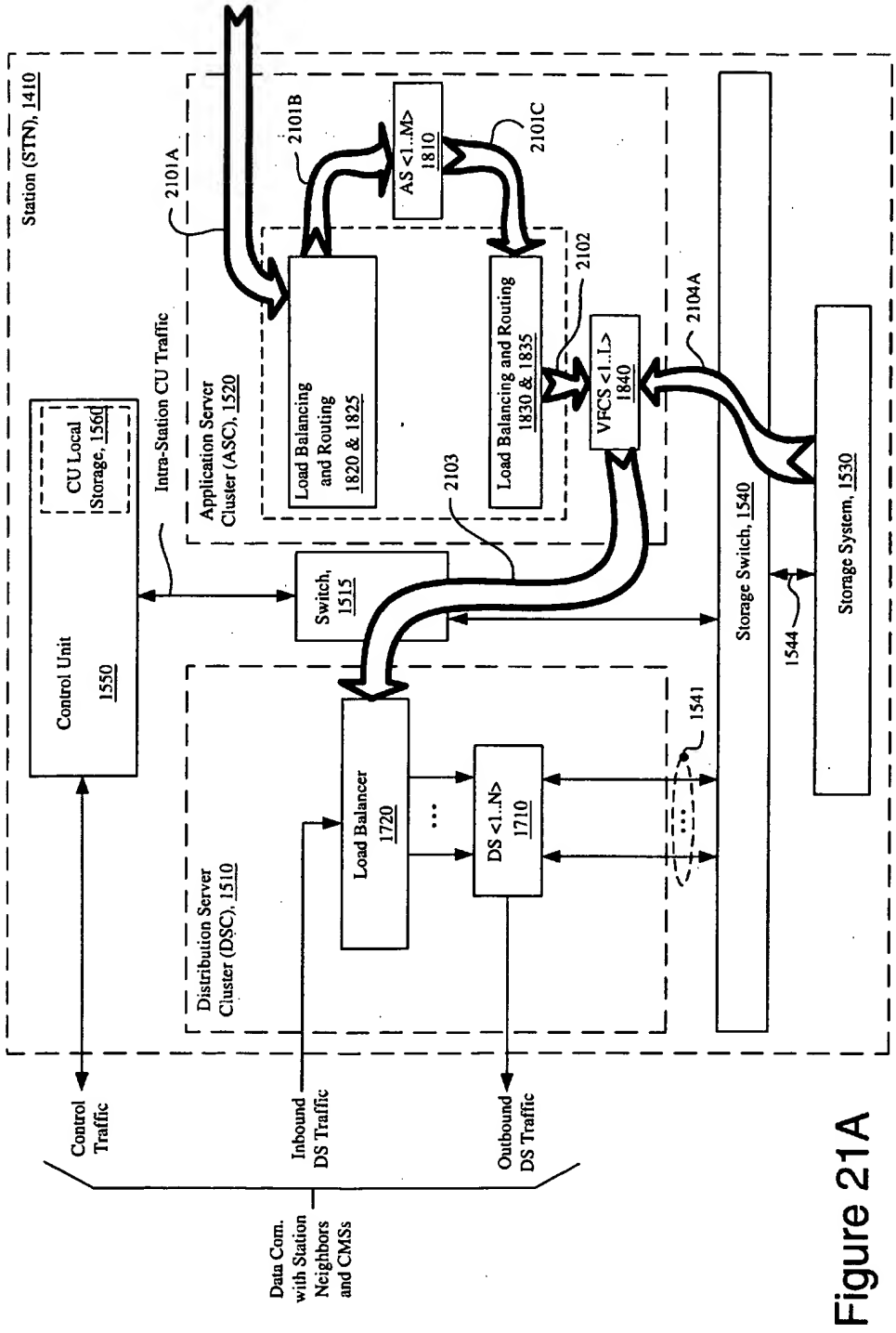

Figure 21A

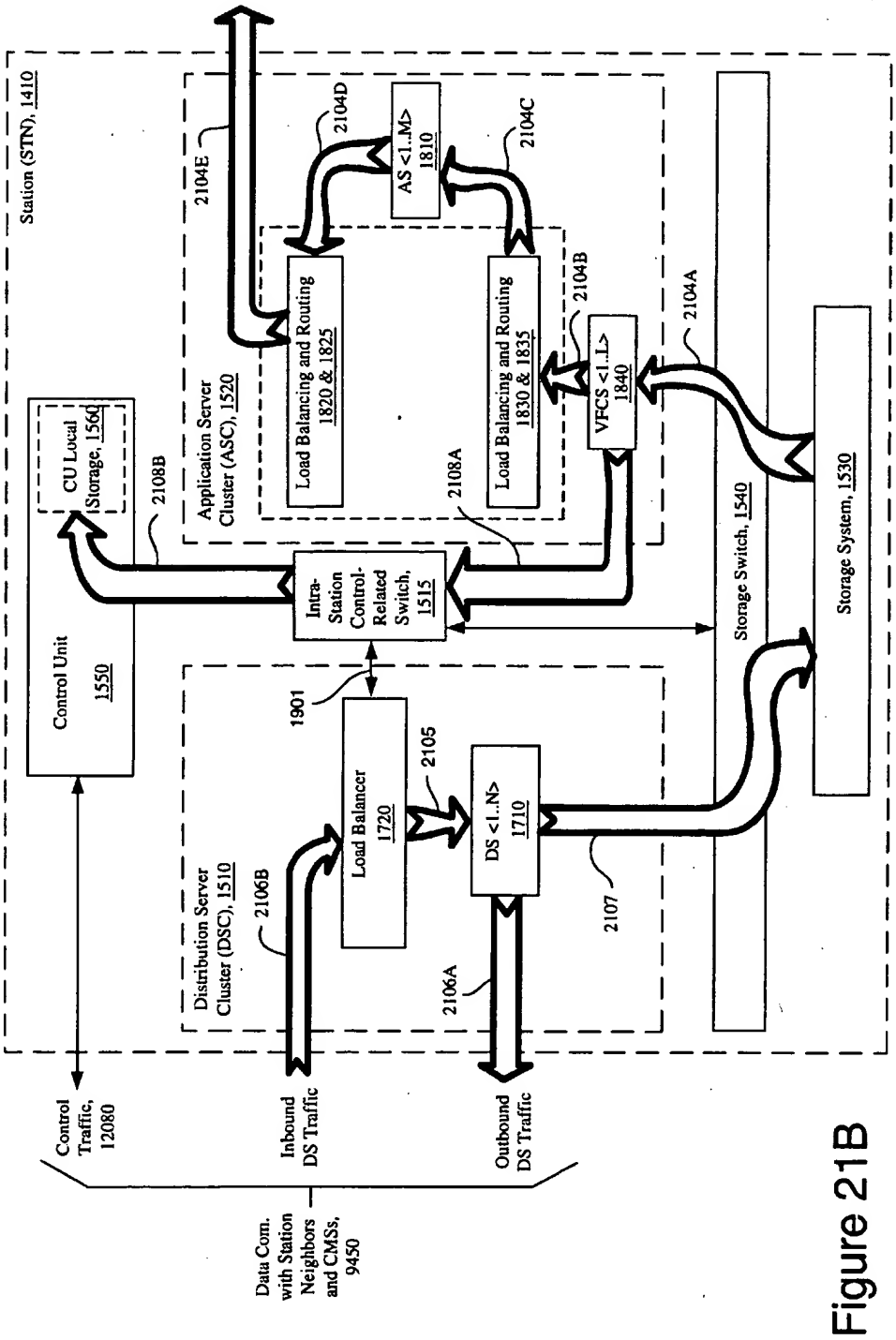
Station (STN), 1410
Application Server Cluster (ASC), 1520
Load Balancing and Routing 1820 & 1825
AS <1..M> 1810
Load Balancing and Routing 1830 & 1835
VFCS <1..L> 1840
Storage Switch, 1540
Storage System, 1530
CU Local Storage, 1560
Control Unit 1550
Intra-Station Control-Related Switch, 1515
Distribution Server Cluster (DSC), 1510
Load Balancer 1720
DS <1..N> 1710
2104A
2104B
2104C
2104D
2104E
2108A
2108B
2105
2106A
2106B
2107
1901
Control Traffic, 12080
Inbound DS Traffic
Outbound DS Traffic
Data Com. with Station Neighbors and CMSs, 9450

Figure 21B

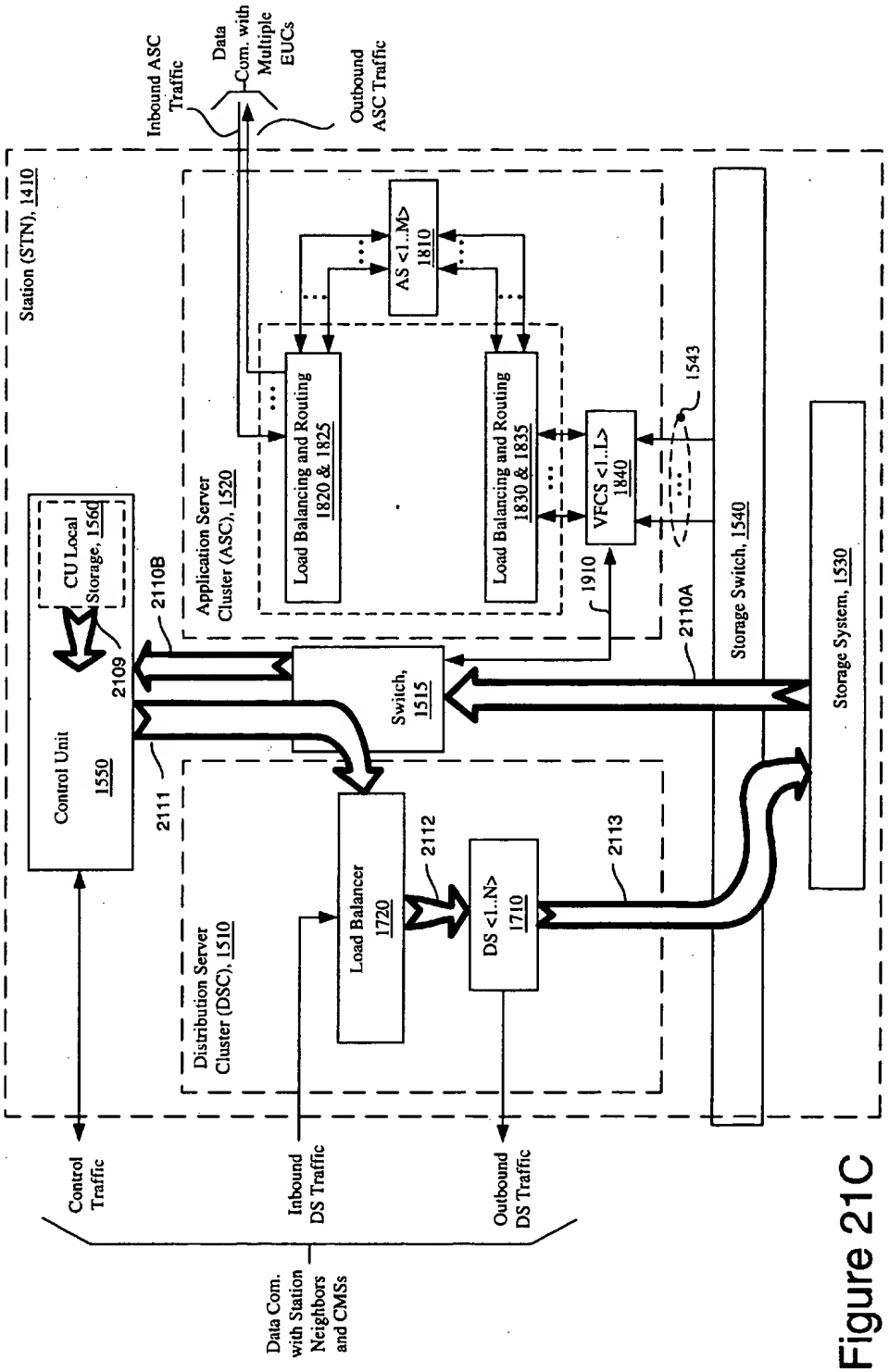
Station (STN), 1410
Inbound ASC Traffic
Data Com. with Multiple EUCs
Outbound ASC Traffic
Application Server Cluster (ASC), 1520
AS <1..M> 1810
Load Balancing and Routing 1820 & 1825
Load Balancing and Routing 1830 & 1835
VFCS <1..L> 1840
1543
1910
2110A
2110B
CU Local Storage, 1560
2109
Control Unit 1550
Switch, 1515
Storage Switch, 1540
Storage System, 1530
2111
Distribution Server Cluster (DSC), 1510
Load Balancer 1720
2112
DS <1..N> 1710
2113
Control Traffic
Inbound DS Traffic
Outbound DS Traffic
Data Com. with Station Neighbors and CMSs

Figure 21C

T-2850-T25850

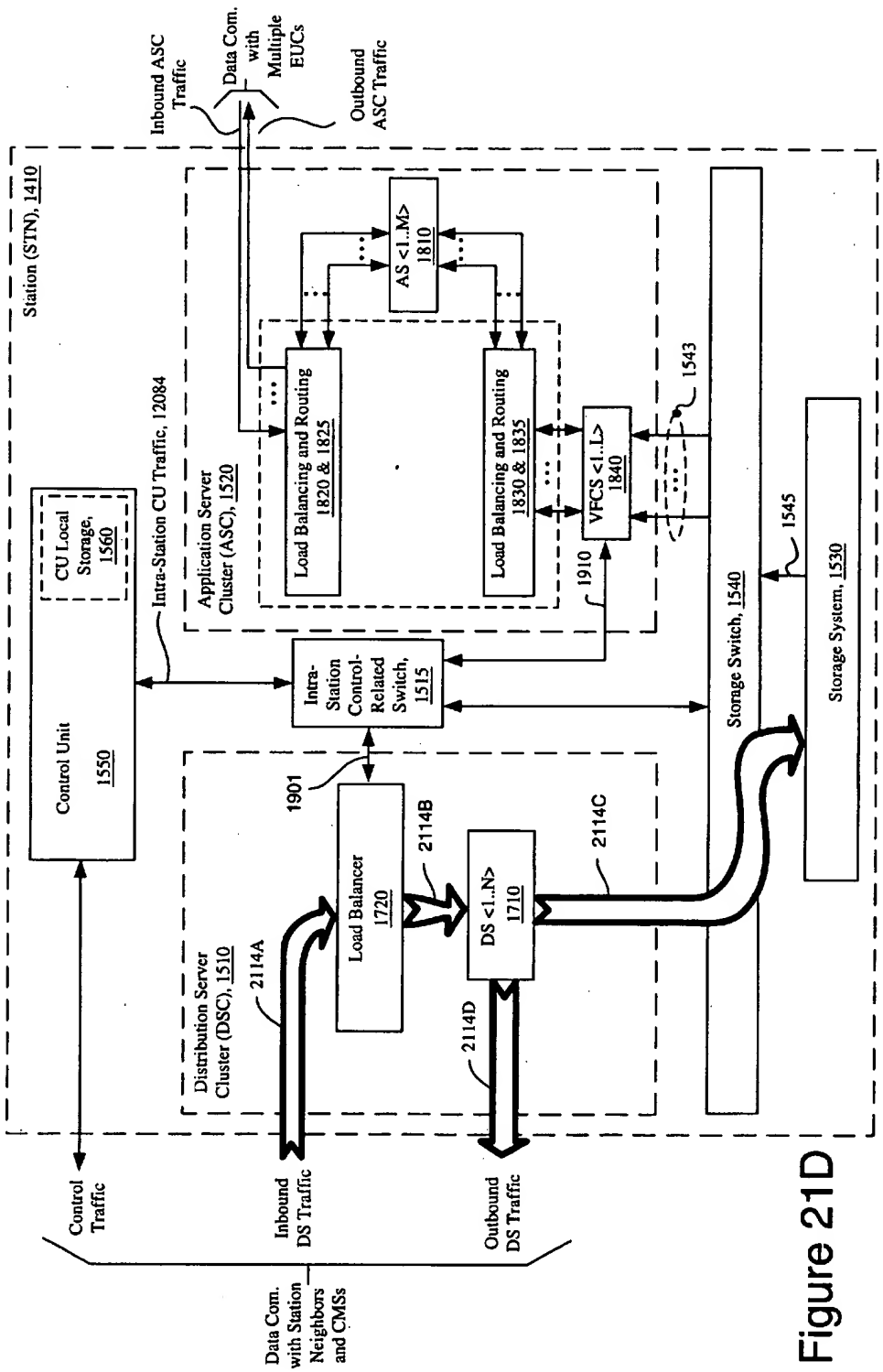

Figure 21D

P0850-T4356D

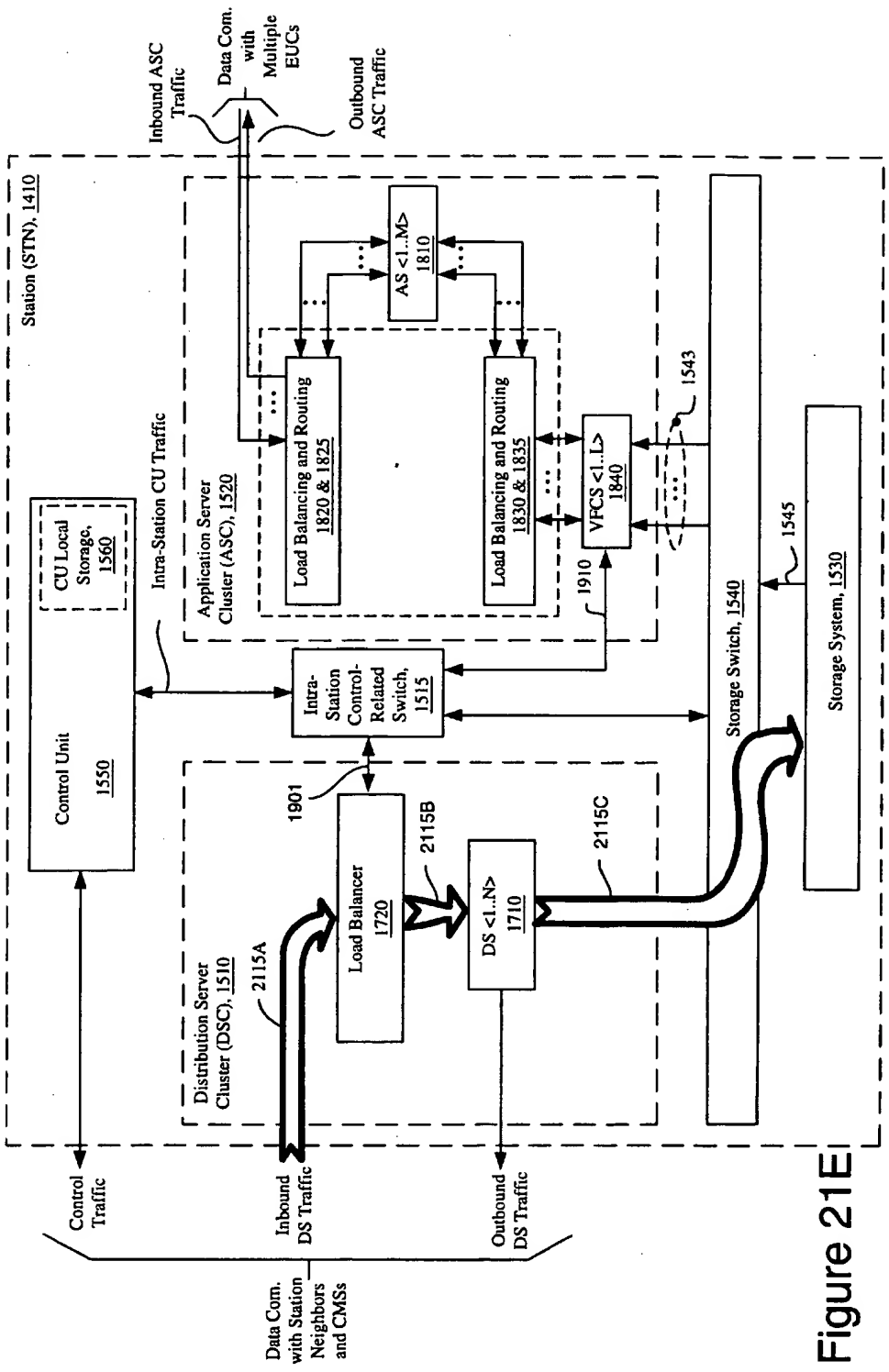

Figure 21E

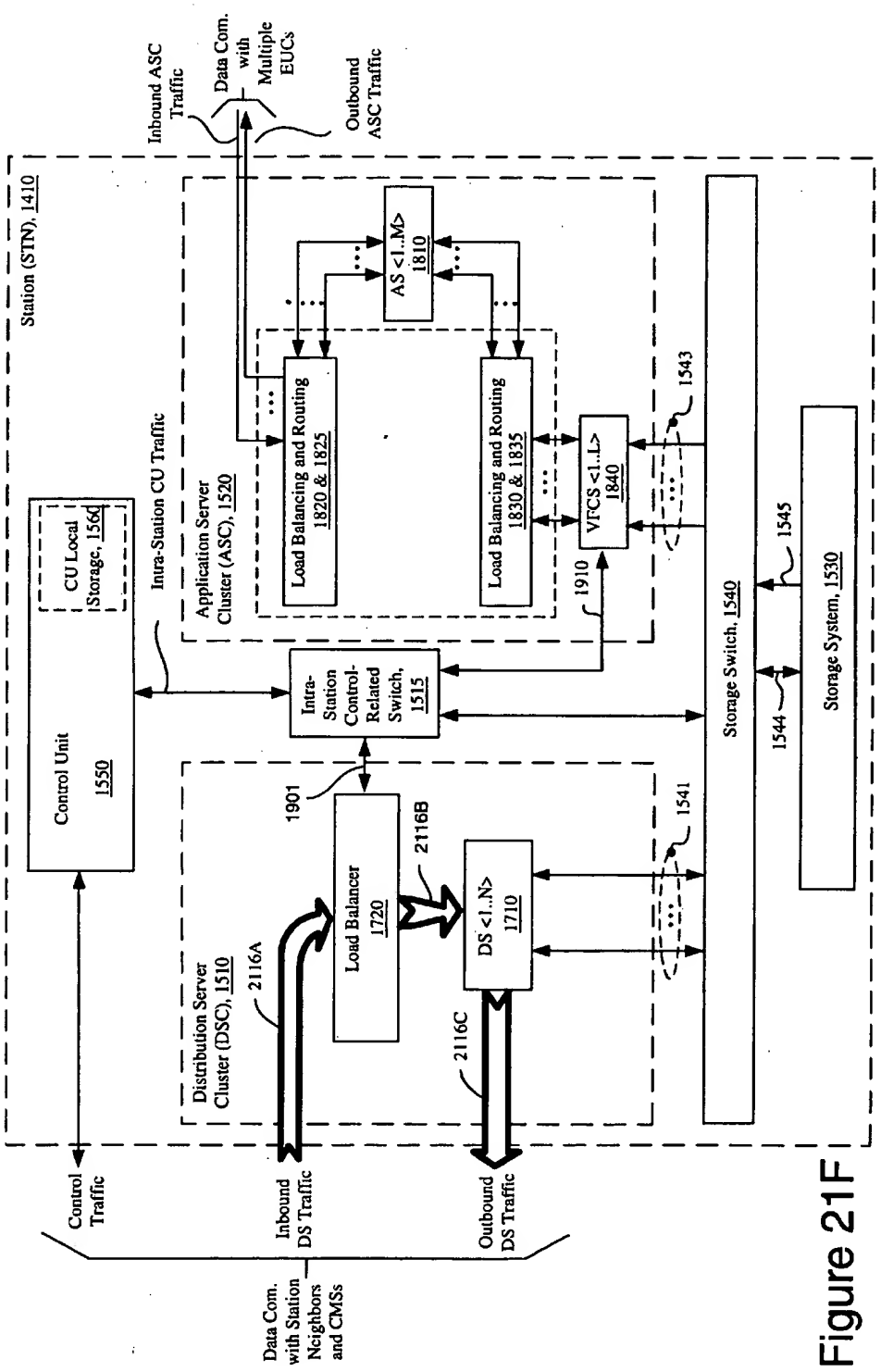
Station (STN), 1410
Inbound ASC Traffic
Data Com. with Multiple EUCs
Outbound ASC Traffic
Application Server Cluster (ASC), 1520
AS <1..M> 1810
Load Balancing and Routing 1820 & 1825
Load Balancing and Routing 1830 & 1835
VFCS <1..L> 1840
1543
1910
Intra-Station CU Traffic
CU Local Storage, 1560
Control Unit 1550
Intra-Station Control-Related Switch, 1515
Storage Switch, 1540
1545
Storage System, 1530
1544
1901
2116B
Load Balancer 1720
DS <1..N> 1710
1541
2116A
2116C
Distribution Server Cluster (DSC), 1510
Control Traffic
Inbound DS Traffic
Outbound DS Traffic
Data Com. with Station Neighbors and CMSs

Figure 21F

Tesla Ex. 1034
Page 116 of 120

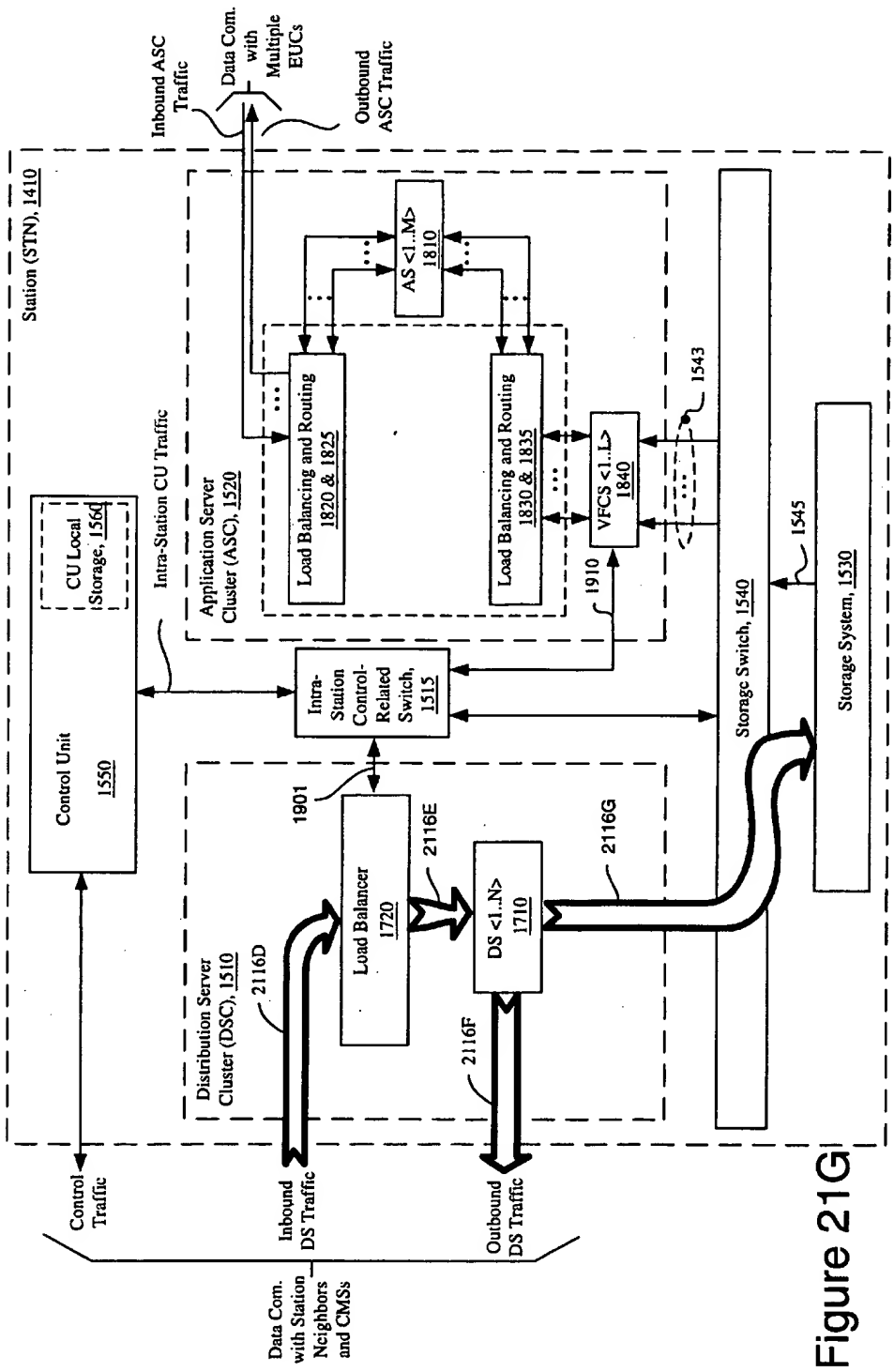

Figure 21G

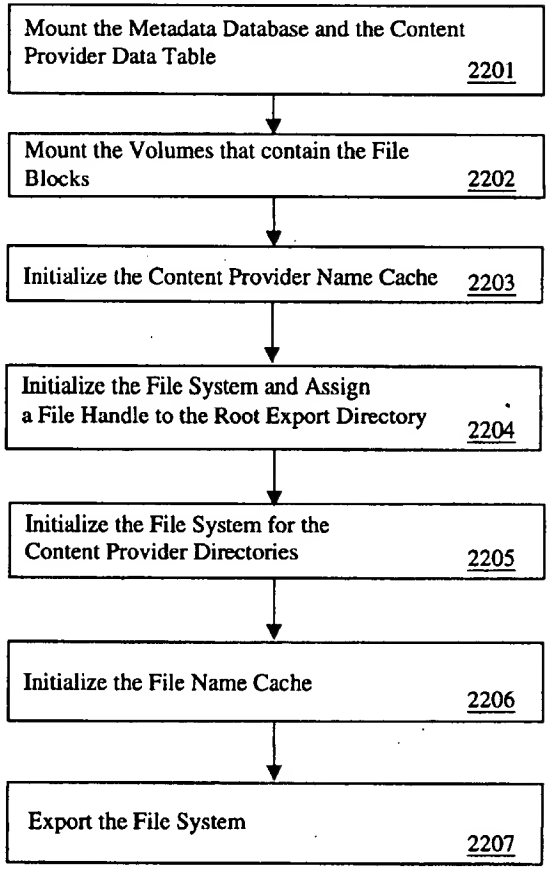
Mount the Metadata Database and the Content Provider Data Table
2201
Mount the Volumes that contain the File Blocks
2202
Initialize the Content Provider Name Cache
2203
Initialize the File System and Assign a File Handle to the Root Export Directory
2204
Initialize the File System for the Content Provider Directories
2205
Initialize the File Name Cache
2206
Export the File System
2207

Figure 22

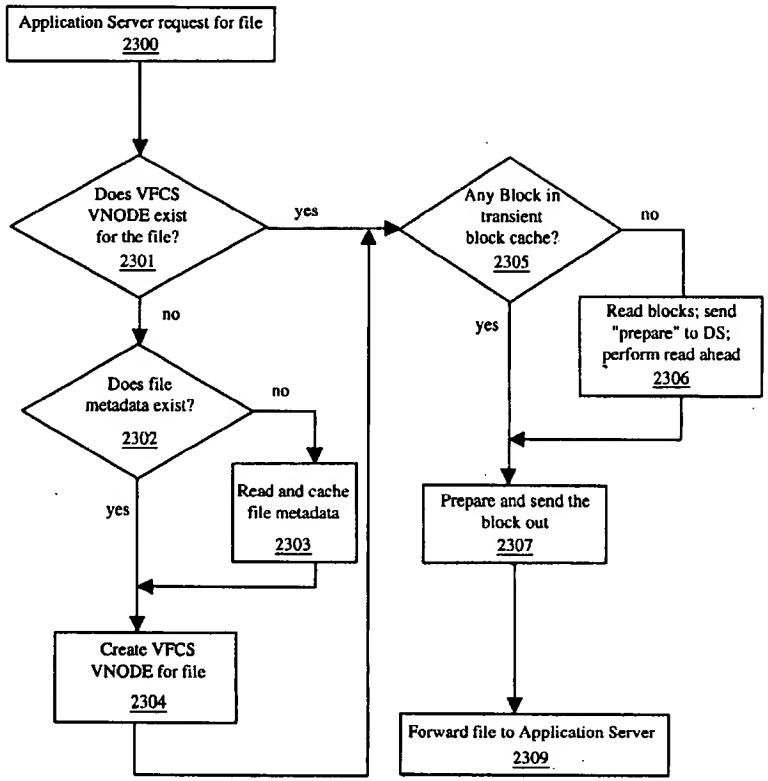
Application Server request for file
2300
Does VFCS VNODE exist for the file?
2301
yes
no
Any Block in transient block cache?
2305
no
yes
Read blocks; send "prepare" to DS; perform read ahead
2306
Does file metadata exist?
2302
no
yes
Read and cache file metadata
2303
Prepare and send the block out
2307
Create VFCS VNODE for file
2304
Forward file to Application Server
2309

Figure 23

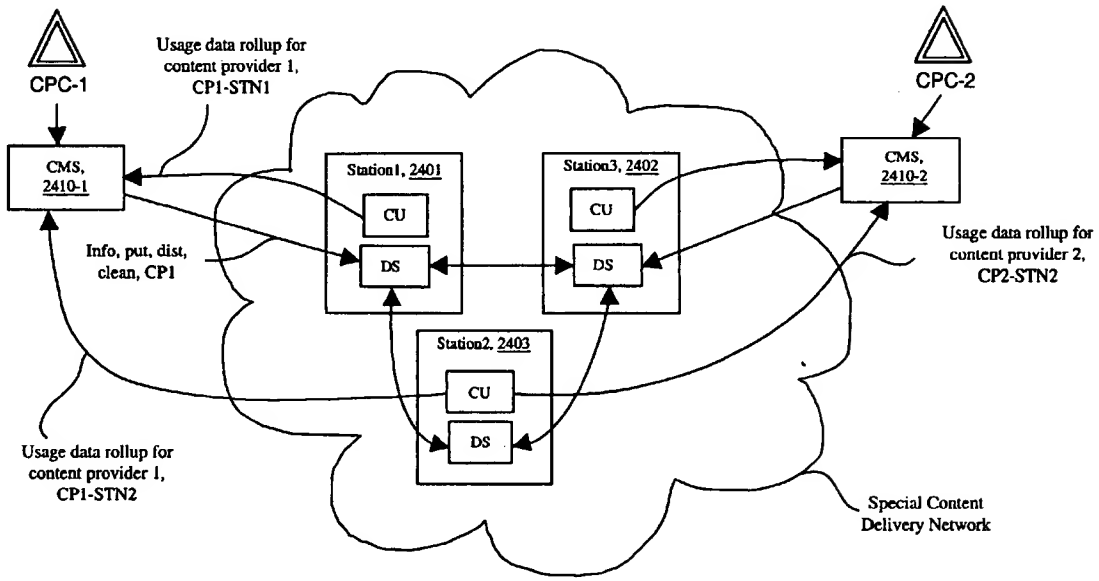
CPC-1
Usage data rollup for content provider 1, CP1-STN1
CPC-2
CMS, 2410-1
Station1, 2401
CU
DS
Station3, 2402
CU
DS
CMS, 2410-2
Info, put, dist, clean, CP1
Usage data rollup for content provider 2, CP2-STN2
Station2, 2403
CU
DS
Usage data rollup for content provider 1, CP1-STN2
Special Content Delivery Network

Figure 24

FOBTSO*TZ9T8960

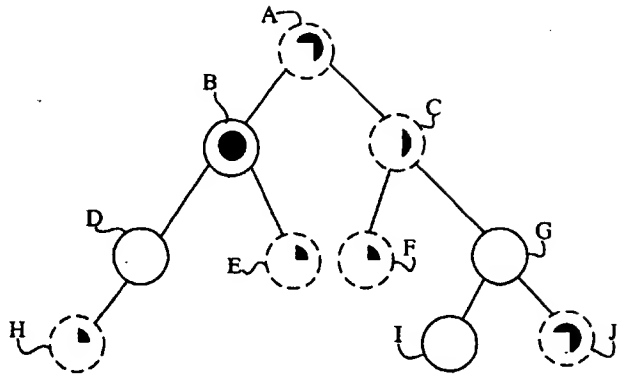

Figure 25